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ABSTRACT

Comparative judgments of vocal quality, speech fluency, and confidence of black and white speakers in southern universities were tested to determine the interrelationships of (1) perception of vocal quality and judgment of confidence in the voice, (2) quality and fluency, and (3) speech fluency and judgment of confidence, and to ascertain the differences between black and white speakers' vocal quality, speech fluency, and confidence. A short passage, used as a stimulus, was read by a test group of 25 Negro and 25 Caucasian students. Using a seven"point scale, it was concluded that: (1) the 50 speakers were correctly identified as to race by a majority of 36 college students serving as listener/judges, (2) vocal quality and speech fluency were both perceived to be significantly better for white speakers, (3) confidence as perceived in the voice was also significantly better for white speakers, and (4) relationships between all combinations of quality, fluency, and confidence were significant. (Author/CH)

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JUDGMENTS OF VOCAL QUALITY, SPEECH FLUENCY, and CONFIDENCE OF SOUTHERN BLACK AND WHITE SPEAKERS

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Abstract: Judgments of Vocal Quality, Speech Fluency, and Confidence of Southern Black and White Speakers by Ruth Beckey Irwin, The Ohio State University

The present study was concerned with comparative judgments of vocal quality, speech fluency, and confidence of black and white speakers in southern universities. Specific objectives were to determine whether the following were related: (1) perception of vocal quality and judgment of confidence in the voice, (2) quality and fluency, (3) speech fluency and judgment of confidence; and to ascertain the differences between black and white speakers in vocal quality, speech fluency, and confidence. A short passage was used as stimuli, to be read by 25 Negroes and 25 Caucasians. Using a seven-point scale, the following results were obtained: (1) the 50 speakers were correctly identified as to race by a majority of 36 listeners; (2) vocal quality and speech fluency were both perceived to be significantly better for white speakers; (3) confidence as perceived in the voice was also significantly better for white speakers; (4) relationships between all combinations of quality, fluency, and confidence were significant.

The study of Negro speech has been primarily concerned with linguistic skills such as vocabulary, grammar, and syntax. Some attention has been given to the phonology of Negro speech, but very little objective observation (Pederson, 1964; Stewart, 1964; Green, 1963) of the paralinguistic features of Negro speech (pitch, rhythm, stress, and voice) has been done. Stewart describes Negro dialect as including "paralinguistic features such as voice quality, syllable dynamics, and speech stylistic uses of pitch."

A few studies (Wolfe, 1968; Harms, 1961) indicate possible social implications of Negro speech. According to Harms, listeners from different social strata were capable of rating social status from recorded taped samples. The high-status speakers were found to be more "credible" than low-status speakers. Southern Negro students were found by Wolfe to be significantly poorer than the other social groups (Southern Caucasian, Northern Negro, Northern Caucasian) in dialect, general speech acceptability, and occupational speech acceptability. The Southern Negro was also less intelligible than the Northern Negro and Northern Caucasian but there was no difference between the Southern Negro and Southern Caucasian in intelligibility.

The relationship of personality to dialect has been studied by Markel, Eisler, and Reese (1967) who found that regional dialect was a significant factor in judging personality. Dialect also had significant effect on how judges rated competency of the speaker (Buck, 1968).

The purpose of the present investigation was to extend the information concerning the differences between black and white speakers in vocal quality, speech fluency, and perceived confidence as heard in the voice. The relationships among these characteristics were also to be considered.

METHOD

Materials

The Passage. To control for effects of content and to emphasize a wide

spread of 40 different phonemes which are found in Standard American English, the following passage (Thomas, 1958) was selected.

> Aunt Mary Jane is eighty years old and a very poor writer, and we were very worried about her. After a while, we saw a very trim barn yard with seven donkeys and ten hogs. Overhead a goose honked, and a dense fog crept in from the lake where fish were aimlessly jumping. We heard frogs in the swamp on a peninsula, and after eleven miles came out into a very barren desolate area.

The Speakers

The speakers were 25 Negroes and 25 Caucasians from southern universities who have lived the major part of their lives in the eastern part of North Carolina (Wolfe, 1968). This area is essentially the dialectal region described by Kurath and McDavid (1961) as the Albemarle Sound and Neuse Valley Region. Rank (freshman and senior) and sex were evenly distributed in the groups.

Recording and Test-Tape

Tape recordings of the speakers reading the Thomas passage were made on the Uher recorders (Models 4000 and 5000) with standard Uher microphones at tape speed of three and three-quarters inches per second. The recordings were made under conditions of relative quiet in empty classrooms. A resear associate obtained these recordings. From these taped recordings of the Thomas passage, a short segment was selected for the stimuli. A test-tape was made by randomizing the 25 black and 25 white speakers. Three samples preceded the items to be rated.

Rating Scales

A seven-point scale in which 7 represents "bad" and 1 represents "good"

was used. The judges were instructed not to use the middle space, 4, thereby eliminating the neutral category. Three items were selected for rating with descriptions for extreme ends of the scale. The following scale was used:

	1	2	3	4	5	6	7	
1. Highly Fluent	_	_	_	_	_	_	_	Highly Nonfluent
2. Sounds Confident	_	_	_	_	_	_	_	Sounds Unsure
3. Vocal Quality Most always pleasing	_	_	_	_	_	_	_	Most always displeasing

Subjects

Thirty-six students, enrolled in an introductory course in stuttering, judged the 53 samples for identification of whether the speaker were black or white; they also judged the vocal quality of the 53 samples on the 7-point rating scale.

Twenty-one students, in another introductory stuttering class, judged the 53 samples for speech fluency and confidence as expressed in the voice of the speakers.

Procedure

Instructions to the 36 judges who identified race and vocal quality of the 50 speakers were as follows:

> This tape consists of 53 speech samples recorded by college students. All of the students are from the southern states of the U.S.A. and all of them have southern accents. Both blacks and whites participated in this program. The task is to determine in each segment whether the student is black or white. Use B for black and W for white. Also, rate the students for voice quality. The scale ranges from 1 to 7. Rating 1 being most always pleasing, and rating 7 being

almost always non-pleasing. Do not use 4.

The 29 subjects, who rated speech fluency and confidence perceived in the speech and voice, were given these instructions: "Score on a seven-point scale in which 7 represents 'bad' and 1 represents 'good.' Check space for rating. Do not use middle space." Each subject judged both the fluency and confidence for the 50 speakers with three trials preceding the judging.

Three pages on which to make ratings were distributed. The entry for each sample was exactly the same, for example:

		1	2	3	4	5	6	7	
Sample 1	1. The person is highly fluent	_	–	–	–	–	–	–	highly non-fluent
	2. The person sounds confident	_	–	–	–	–	–	–	unsure

RESULTS AND DISCUSSION

Each of the 50 speakers were correctly identified as to race by the majority (90% or more) of the 36 judges. The means and t values between blacks and whites were determined for each of the three dimensions: vocal quality, speech fluency, and confidence as perceived in speech. The results, as shown in Table 1, indicate that the vocal quality of the white speakers (M=2.68) was perceived by 36 judges as significantly better (t value, .01 level)than the vocal quality of black speakers (M=3.27). (Table 1 about here)

Speech fluency, as perceived by 29 judges, was significantly better (t value, .001 level) for white speakers (M=1.9) than for black speakers (M=3.0). Confidence expressed in the voice of the white speakers (M=2.3) was judged by 29 listeners to be significantly better (t value, .01 level) than the perceived confidence in the voices of black speakers (M-3.8).

Relationships (Pearson Product Moment) between all possible combinations of vocal quality, fluency, and confidence were determined. As shown in Table 2, all rs are significant at the .01 level; vocal quality and speech fluency, r=0.75;

vocal quality and confidence in voice, r = 59; speech fluency and confidence, r = 0.82. (Table 2 about here)

The reliability coefficients (Winer, pp. 124-132, 1972) for the judges were as follows: (1) Fluency, 29 judges, r = 98; (2) Voice, 36 judges, r = 97; and (3) Confidence, 29 judges, r = 98.

SUMMARY AND DISCUSSION

The purpose of this study was to evaluate the differences between 25 black and 25 white speakers from southern universities in vocal quality, speech fluency, and confidence as perceived in the voice. These speakers recorded a short passage from Thomas for evaluation by judges on a seven-point scale. The results indicated that the 50 speakers were correctly identified as to race by the majority of the 36 judges. Vocal quality and speech fluency were perceived as significantly better for white speakers than for the black speakers. Confidence as perceived in the voice of the speakers was also significantly higher for white speakers than for black speakers. The relationships between all possible combinations of vocal quality, fluency, and confidence indicated significant correlations, ranging from 0.59 to 0.82.

It would seem that implications might be made from the voice and rhythm of the speaker. Judgments about personality do seem to be affected by vocal quality (r = 0.59), and by speech fluency (r = 0.82). As vocal quality or speech fluency is improved, it would appear that judgments about the confidence of the speaker would also improve. These observations would have implications, not only for all speakers, but also for speech-handicapped persons.

TABLE 1.

Means and *t* values for differences between black and white speakers for judgments of vocal quality, speech fluency, and confidence (*df*, 48).

	Black	White	*t*
Vocal Quality (36 judges)	3.27	2.68	2.76*
Speech Fluency (29 judges)	3.0	1.9	5.52**
Confidence (29 judges)	3.8	2.3	4.41**

**$t_{.001} \geq$ 3.55 (40 *df* used)

*$t_{.01} \geq$ 2.70

Scale. 1 2 3 4 5 6 7

1. Most always pleasing. . . . .Most always displeasing
2. Highly fluent . . . . . .Highly nonfluent
3. Confident . . . . . .Nonconfident

TABLE 2.

Correlation matrix for relationships between all possible combinations of vocal quality, fluency, and confidence in voice for black (25) and white (25) speakers.

	Vocal Quality	Speech Fluency	Confidence
	$\underline{r}$	$\underline{r}$	$\underline{r}$
Vocal Quality	1.00	0.75*	0.59*
Speech Fluency		1.00	0.82*
Confidence as Expressed in Voice			1.00

$\underline{r}_{.01} \geq 0.35$ ($\underline{df}$, 49)

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